

ACA/DI/15	Teaching Plan (A.Y 2023-24)	Academic Year 2023-24
Rev:00	Subject: Physics	Subject Code(54)
Date: 14/06/2023		Class 12 Sci A, B, C

Chapter No.	Name of Chapter	Topics/ content of chapter	Planned Date of Commencing	Planned Date of Completion	Media/Teaching Aid/ Teaching Method
1	Rotational Dynamics	Intoduction, Angular displacement	4/17/2023		PPT & Whiteboard & Marker
		Angular Velocity, Angular acceleration	4/18/2023		PPT & Whiteboard & Marker
		Real and Pesudo Force	4/19/2023		PPT & Whiteboard & Marker
		Uniform circular motion, UCM application	4/20/2023		PPT & Whiteboard & Marker
		Centripetal force, Centrifugal force	4/21/2023		PPT & Whiteboard & Marker
		Wall of death, Vehicle on a horizontal road	4/24/2023		PPT & Whiteboard & Marker
		Banking of roads,Sums	4/25/2023		PPT & Whiteboard & Marker
		Conical Pendulum, Vertical circular motion,Sums	4/26/2023		PPT & Whiteboard & Marker,
		Application of Vertical circular motion,Sums	4/27/2023		PPT & Whiteboard & Marker
		Moment of Inertia, Application of moment of inertia, Radius of gyration.	4/28/2023		PPT & Whiteboard & Marker
		Theorem of parallel axis	4/29/2023		PPT & Whiteboard & Marker
		perpendicular axis,	5/2/2023		PPT & Whiteboard & Marker
		Angular momentum, Expression of Angular momentum,	5/3/2023		PPT & Whiteboard & Marker
		Sums	5/4/2023		PPT & Whiteboard & Marker
		Law of conservation of angular momentum	5/8/2023		PPT & Whiteboard & Marker
		expression for torque, rolling motion	5/9/2023		PPT & Whiteboard & Marker
		sums	5/10/2023		PPT & Whiteboard & Marker
		Intoduction, Kirchoff's laws	5/11/2023		PPT & Whiteboard & Marker
		Kirchoff's laws- sums	5/12/2023		PPT & Whiteboard & Marker

9	Current Electricity	Principle of Wheatstone's bridge	5/13/2023		PPT & Whiteboard & Marker,
		Application of Wheatstone's bridge	5/15/2023		PPT & Whiteboard & Marker,
		Principle of potentiometer, Individual cell method	5/16/2023		PPT & Whiteboard & Marker,
		Potentiometer- Combination method	5/17/2023		PPT & Whiteboard & Marker,
		Application of potentiometer	5/18/2023		PPT & Whiteboard & Marker,
		Potentiometer- Internal resistance of cell, Principle of Galvanometer, sums.	5/19/2023		PPT & Whiteboard & Marker, Potentiometer
		Potentiometer- Kelvins method	6/1/2023		PPT & Whiteboard & Marker,
		Conversion of MCG into ammeter and voltmeter	6/2/2023		PPT & Whiteboard & Marker
		Numericals	6/5/2023		PPT & Whiteboard & Marker
		Numericals	6/6/2023		PPT & Whiteboard & Marker
2	Mechanical properties of fluids	Introduction, mechanical properties of fluids, difference between solids and liquids	6/7/2023		PPT & Whiteboard & Marker
		Fluids at rest, pressure due to liquid column	6/8/2023		PPT & Whiteboard & Marker
		Atmospheric pressure, absolute pressure and gauge	6/9/2023		PPT & Whiteboard & Marker
		gauge pressure, hydrostatics paradox	6/12/2023		PPT & Whiteboard & Marker
		Pascal's law and its application	6/13/2023		PPT & Whiteboard & Marker
		Measurement of pressure- Working of mercury barometer and manometer	6/14/2023		PPT & Whiteboard & Marker
		surface tension, some basic definition, difference between cohesive and adhesive forces	6/15/2023		PPT & Whiteboard & Marker
		Molecular theory of surface tension, surface energy	6/16/2023		PPT & Whiteboard & Marker
		Relation between surface tension and surface energy,	6/19/2023		PPT & Whiteboard & Marker
		angle of contact- shapes of meniscus, shape of liquid drop	6/20/2023		PPT & Whiteboard & Marker
		Factors affecting angle of contact, effect of impurity and temperature, sums	6/21/2023		PPT & Whiteboard & Marker
		Excess pressure across the free surface of liquid- plane, convex and concave, Expression for bubble drop	6/22/2023		PPT & Whiteboard & Marker

2	Mechanical properties of fluids	Capillary action- fall and rise, fluids in motion, sums	6/23/2023		PPT & Whiteboard & Marker
		Critical velocity and Reynold's number, viscosity, coefficient of viscosity	6/26/2023		PPT & Whiteboard & Marker
		Stoke's law. Terminal velocity, equation of continuity	6/27/2023		PPT & Whiteboard & Marker
		Bernoulli's equation- speed of efflux	6/28/2023		PPT & Whiteboard & Marker
		Revision For UT 1 exam	6/30/2023		PPT & Whiteboard & Marker
		Revision For UT 1 exam	7/3/2023		PPT & Whiteboard & Marker
		Exam Start and End	04-07-2023 to		
		Application of Bernoulli's equation, sums	7/12/2023		PPT & Whiteboard & Marker
		sums	7/13/2023		PPT & Whiteboard & Marker
3	Kinetic Theory of Gases and Radiation	Introduction, Behaviour of gases, ideal and real gas, Mean free path	7/14/2023		PPT & Whiteboard & Marker
		Pressure of ideal gas, Root mean square	7/17/2023		PPT & Whiteboard & Marker
		, Interpretation of temperature in kinetic theory	7/18/2023		PPT & Whiteboard & Marker
		Law of equipartition of energy, sums	7/19/2023		PPT & Whiteboard & Marker
		Diatomic molecules	7/20/2023		PPT & Whiteboard & Marker
		Specific heat capacity-Meyers Equation	7/21/2023		PPT & Whiteboard & Marker
		Absorption, Reflection and transmission of heat radiation,	7/24/2023		PPT & Whiteboard & Marker
		Perfectly black body, emission of heat radiation, sums	7/25/2023		PPT & Whiteboard & Marker
		Kirchoff's law of heat radiation and theoretical proof,	7/26/2023		PPT & Whiteboard & Marker
		spectral distribution of blackbody radiation	7/27/2023		PPT & Whiteboard & Marker
		Wien's displacement law, sums	7/28/2023		PPT & Whiteboard & Marker
		Stefan-Boltzmann law of radiation,	7/31/2023		PPT & Whiteboard & Marker
		Numericals	8/1/2023		PPT & Whiteboard & Marker
		Numericals	8/2/2023		PPT & Whiteboard & Marker
		Introduction, thermal equilibrium, Zeroth law of thermodynamics	8/3/2023		PPT & Whiteboard & Marker
		Heat, internal energy and work,	8/4/2023		PPT & Whiteboard & Marker
		Thermodynamics system and Process, Heat	8/7/2023		PPT & Whiteboard & Marker

4	Thermodynamics	Change in Internal Energy of a system	8/8/2023		PPT & Whiteboard & Marker
		First law of thermodynamics,	8/9/2023		PPT & Whiteboard & Marker
		Thermodynamics equilibrium,	8/10/2023		PPT & Whiteboard & Marker
		Thermodynamics state variables	8/11/2023		PPT & Whiteboard & Marker
		PV Diagrams	8/14/2023		PPT & Whiteboard & Marker
		Thermodynamics process,	8/16/2023		PPT & Whiteboard & Marker
		Heat added during process	8/17/2023		PPT & Whiteboard & Marker
		Classification of thermodynamics process	8/18/2023		PPT & Whiteboard & Marker
		,Reversible and irreversible process,	8/21/2023		PPT & Whiteboard & Marker
		Isothermal process, Isobaric process ,sums	8/22/2023		PPT & Whiteboard & Marker
		Isochoric process,Adiabatic process,	8/23/2023		PPT & Whiteboard & Marker
		Cyclic process,Free Expansion, sums	8/24/2023		PPT & Whiteboard & Marker
		Heat engine - working and expression	8/24/2023		PPT & Whiteboard & Marker
		Refrigerators and heat pumps,	8/25/2023		PPT & Whiteboard & Marker
		Air conditioner, heat pumps, sums	8/25/2023		PPT & Whiteboard & Marker
		Second law of thermodynamics,	8/28/2023		PPT & Whiteboard & Marker
		Carnot's cycle and engine, Sterling Cycle, sums	8/28/2023		PPT & Whiteboard & Marker
		Numericals	8/29/2023		PPT & Whiteboard & Marker
		Introduction, Applications of Gauss law,	8/29/2023		PPT & Whiteboard & Marker
		Applications of Gauss law,	8/31/2023		PPT & Whiteboard & Marker
		Electric Potential & Potential Energy	8/31/2023		PPT & Whiteboard & Marker
		Expression for potential energy, Relation between electric field and electric potential	9/1/2023		PPT & Whiteboard & Marker
		Electric Potential due to a point charge, due to a system of charges	9/1/2023		PPT & Whiteboard & Marker
		Revision For UT 2 exam	9/4/2023		PPT & Whiteboard & Marker
		Revision For UT 2 exam	9/5/2023		PPT & Whiteboard & Marker

8	Electrostatics	UT 2 Exam Start and End	06-9-2023 to 13-		
		Electric Potential due to a dipole	9/14/2023		PPT & Whiteboard & Marker
		Equipotential surfaces	9/14/2023		PPT & Whiteboard & Marker
		Electrical energy of two point charges and of a dipole in a electrostatic field	9/15/2023		PPT & Whiteboard & Marker
		Electrical energy of a dipole in a external field	9/15/2023		PPT & Whiteboard & Marker
		Conductors & insulators, Free and Bound charge	9/18/2023		PPT & Whiteboard & Marker
		Dielectric & Electric Polarization	9/18/2023		PPT & Whiteboard & Marker
		Capacitors & capacitance, Combination of capacitor	9/20/2023		PPT & Whiteboard & Marker
		Capacitance of parallel plate capacitor with and without dielectric medium	9/20/2023		PPT & Whiteboard & Marker
		Energy stored in a capacitor	9/21/2023		PPT & Whiteboard & Marker
		Displacement Current , Van de Graff Generator	9/22/2023		PPT & Whiteboard & Marker
		Numericals	9/22/2023		PPT & Whiteboard & Marker
5	Oscillations	Introduction, Explanation of Periodic Motion, Linear	9/25/2023		PPT & Whiteboard & Marker
		Differential equation of SHM, Acceleration, Velocity,	9/26/2023		PPT & Whiteboard & Marker
		Extreme values of displacement, velocity and	9/26/2023		PPT & Whiteboard & Marker
		Graphical Representation of SHM, Composition of two	9/27/2023		PPT & Whiteboard & Marker
		Energy of particle performing SHM, Simple Pendulum,	9/27/2023		PPT & Whiteboard & Marker
		Angular SHM & its Differential equation,Damped	9/29/2023		PPT & Whiteboard & Marker
		Numericals + Revision	9/29/2023		PPT & Whiteboard & Marker
6	Superposition of Waves	Introduction,Progressive Wave, Reflection of Waves	10/3/2023		PPT & Whiteboard & Marker
		Superposition of waves, Stationary Waves, Properties of Stationary Waves	10/4/2023		PPT & Whiteboard & Marker
		Free & Forces Vibrations,	10/5/2023		PPT & Whiteboard & Marker
		Harmonics& Overtones, Sonometer	10/6/2023		PPT & Whiteboard & Marker
		Beats & its Applications	10/6/2023		PPT & Whiteboard & Marker
		Numericals + Revision	10/9/2023		PPT & Whiteboard & Marker
		Introduction	10/10/2023		PPT & Whiteboard & Marker

7	Wave Optics	Reflection of light by different surfaces, Interference	10/11/2023		PPT & Whiteboard & Marker
		Young's double slit experiment, Diffraction and its types	10/12/2023		PPT & Whiteboard & Marker
		Resolving Power of Optical instruments	10/13/2023		PPT & Whiteboard & Marker
		Numericals	10/16/2023		PPT & Whiteboard & Marker
12	Electromagnetic Induction	Introduction, Faraday's law of electromagnetic induction,	10/17/2023		PPT & Whiteboard & Marker
		Lenz's law, Flux of a field, Motional emf, Induced emf in a	10/18/2023		PPT & Whiteboard & Marker
		Generators, Back emf & back torque, Induction & Energy transfer,, Eddy Current, Self Inductance,	10/19/2023		PPT & Whiteboard & Marker
		Mutual Inductance, Transformer, sums	10/20/2023		PPT & Whiteboard & Marker
13	AC Circuits	Introduction, AC Generator, Phasors	10/23/2023		PPT & Whiteboard & Marker
		Different types of AC circuits, Phasor Diagrams	10/25/2023		PPT & Whiteboard & Marker
		Impedance Triangle, Power in AC circuit	10/26/2023		PPT & Whiteboard & Marker
		LC Oscillations, Electric Resonance, Q Factor, Choke Coil Numericals	10/26/2023		PPT & Whiteboard & Marker
		Revision for Term Exam	10/27/2023		PPT & Whiteboard & Marker
		Revision for Term Exam	10/30/2023		PPT & Whiteboard & Marker
		Term Exam Start and End	31-10-2023 to 8-		
15	Structure of Atoms and Nuclei	Geiger Marsden Experiment, Rutherford's Atomic Model,	11/20/2023		PPT & Whiteboard & Marker
		Atomic Spectra, Bohr's Atomic Model	11/20/2023		PPT & Whiteboard & Marker
		Atomic Nucleus, Nuclear Forces	11/21/2023		PPT & Whiteboard & Marker
		,Nuclear Binding Energy, Radioactive decay	11/22/2023		PPT & Whiteboard & Marker
		Law of Radioactive decay, Nuclear Energy,	11/23/2023		PPT & Whiteboard & Marker
		Chain Reaction, Nuclear Fission & Nuclear Fusion	11/23/2023		PPT & Whiteboard & Marker
	Magnetic fields	Introduction, Magnetic force, Cyclotron motion, cyclotron accelerator	11/24/2023		PPT & Whiteboard & Marker
		Helical motion, Magnetic force on a wire carrying a	11/24/2023		PPT & Whiteboard & Marker
		Force on a closed circuit in a magnetic field, Torque on a current loop	11/27/2023		PPT & Whiteboard & Marker
		Moving coil galvanometer, Magnetic dipole moment,	11/27/2023		PPT & Whiteboard & Marker

10	due to electric currents	forces of attraction between two long parallel wires,	11/28/2023		PPT & Whiteboard & Marker
		magnetic field produced by a current in a circular coil,	11/28/2023		PPT & Whiteboard & Marker
		Axial magnetic field due to current in a circular loop,	11/29/2023		PPT & Whiteboard & Marker
		Magnetic lines for a current loop,Ampere's law	11/29/2023		PPT & Whiteboard & Marker
		Magnetic field of a solenoid and a toroid,sums	11/30/2023		PPT & Whiteboard & Marker
		Sums	12/1/2023		PPT & Whiteboard & Marker
11	Magnetic Materials	Introduction,Torque acting on a dipole	12/4/2023		PPT & Whiteboard & Marker
		Origin of magnetism,Magnetization and magnetic	12/5/2023		PPT & Whiteboard & Marker
		Magnetic properties of materials-Diamagnetism, Paramagnetism and Ferromagnetism, sums	12/6/2023		PPT & Whiteboard & Marker
		Domain theory,HysteresisPermanent magnet and electromagnet, Magn etic shielding,sums	12/7/2023		PPT & Whiteboard & Marker
16	Semiconductor Devices	Introduction, p-n Junction as a rectifier	12/8/2023		PPT & Whiteboard & Marker
		Filter circuit, Zener Diode	12/8/2023		PPT & Whiteboard & Marker
		Working of a zener regulator	12/11/2023		PPT & Whiteboard & Marker
		photo cell and photo diode	12/12/2023		PPT & Whiteboard & Marker
		LED and solar cell	12/13/2023		PPT & Whiteboard & Marker
		BJT, Transistor and its types, Transistor as a amplifier	12/14/2023		PPT & Whiteboard & Marker
		Logic Gates + Numericals	12/15/2023		PPT & Whiteboard & Marker
14	Dual Nature of Radiation And Matter	Introduction, The Photoelectric Effect,	12/18/2023		PPT & Whiteboard & Marker
		setup and experimental observations of photoelectric	12/18/2023		PPT & Whiteboard & Marker
		Graphical Observations of Photoelecttic effect	12/19/2023		PPT & Whiteboard & Marker
		Einstein theory of Quantization of energy & Phtoelectric equation	12/19/2023		PPT & Whiteboard & Marker
		Wave Particle Duality of electromagnetic radiation	12/20/2023		PPT & Whiteboard & Marker
		Photo cell and its applications,	12/20/2023		PPT & Whiteboard & Marker
		De Broglie's hypothesis and its explanation	12/21/2023		PPT & Whiteboard & Marker
		,Davisson and Germer Experiment,	12/22/2023		PPT & Whiteboard & Marker
		Wave Particle Duality of Matter ,sums	12/22/2023		PPT & Whiteboard & Marker

	Prelim 1		2-1-2024 to 9-1-		
	Prelim 2		22-1-2024 to 29-		

Subject Teachers

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